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BULLETIN

OF

THE NEW YORK ACADEMY OF MEDICINE

INCORPORATED 1851

MARCH, 1935

PUBLISHED MONTHLY BY

THE NEW YORK ACADEMY OF MEDICINE

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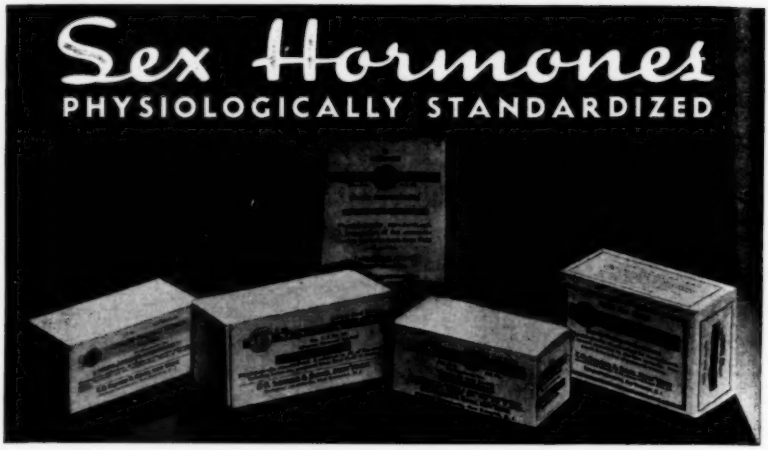

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Editorial

FELICE FONTANA: A FORGOTTEN PHYSIOLOGIST OF THE TRENTINO

Of old, an *abbot, abbé* or *abbate* was primarily an ecclesiastic, who presided over an abbey or other community of monks or was treasurer of its revenues. But even before the Council of Trent, there were lay, as well as clerical abbots, who discharged no spiritual functions, even while subsisting on the revenues of abbeys. Eventually the term was loosely applied to lay clergyman of the type of La Fontaine or Galiani or Liszt, who wore "the dress of a secular ecclesiastic." Some of these men have played no inconsiderable part in the history of science or of medicine. One thinks offhand of Nollet, Quillet, Spallanzani, the abbé de l'Epée and his successor Sicard, or the great name of Mendel. Prominent in the lay group stands the name of the *abbate* Felice Fontana (1720-1805), pioneer in the investigation of serpent venoms, whose life-span covered the greater part of the 18th Century; who was alive when Marengo was fought, Fort Dearborn built and the Eroica Symphony played; who lived to see Napoleon made Emperor of the French and died a few months before the battle of Trafalgar. Born at Pomarole, near Rovereto (Austrian Tyrol), on April 15, 1720, Fontana gained his education at Verona, Parma, Padua and Bologna, and early occupied the chair of philosophy at Pisa. Eventually he was called by the Grand Duke of Tuscany (later Leopold II) to take charge of the Museum of Physics and Natural History at Florence, founded by the Accademia del Cimento, and repository of the apparatus used by Galileo, Torricelli

and Viviani in their epoch-making experiments. To this Museum, after some years of travel, spent in collecting specimens in France and England, Fontana devoted the last thirty years of his life. Outstanding in this unrivalled collection was his great assembly of anatomical preparations in colored wax, of which he was the special creator. No less than eight separate Italian biographies of Fontana have been written and published in recent years.[1] As an experimental physiologist, he has come into his own but latterly. During his lifetime, Italy, like Germany, existed as a loose congeries of petty principalities, dominated mainly by Austria and Spain, and devoid of any realistic aspiration toward nationhood, beyond a vague feeling for the past glories of Roman power. Mental independence and spontaneity were submerged by a rigid, schematic system of scholastic dogma and all sense of national character was lost. Nevertheless, for Italy, as for the rest of Europe, the 18th Century was a "germinal century," matrix *in posse* of all the going ideas of the modern world, even the egalitarian principles of the French Revolution, in which Fontana became involved, to his cost, toward the end of his life.

Recent interest in Fontana centres on his work in physiology, which has been considerably overshadowed by the spectacular interest attaching to his Museum of wax preparations. He began as a promoter of the ideas of Haller (*fautor Halleri*), in particular of the Hallerian doctrine of irritability.[2] In his book on the anatomy of the liver (1654), Glisson had stated that vital phenomena depend upon the ability of all living things to react to stimuli; in other words, upon the tendency of living tissues to react to irritation. This property of irritability is expanded at length in Glisson's posthumous treatise on the stomach and the intestines (1662-77). In Haller's hands, irritability became merged into muscular contractility while the conductibility of nerve was differentiated as "sensibility." Zimmerman had found that application of laudanum will arrest the pulsations of an isolated heart without destroying the irritability of the cardiac muscle (1751). Fontana found that opium will inhibit intestinal but not cardiac

irritability (1757). He denied the irritability of nerve, since no irritation of cardiac nerves will inhibit the motions of the heart; and reasoned that the dura mater, the tendons, veins, arteries, membranes and placenta are alike insensible to laceration or the action of caustics. Alcohol applied to the brain, the medulla or the crural nerves will inhibit the action of the corresponding muscles, where a watery solution of opium is inert; whence the effect of laudanum is ambiguous. Experiments upon 300 frogs showed the effect of opium upon an exposed nerve to be *nil*. The main interest of these findings is their effect upon such phases of 18th Century doctrine as the tonic-atonic hypothesis of Hoffmann, the sthenic and asthenic pathology of Brown or the stimulus and contrastimulus of Rasori. Fontana's researches of 1775[3] reveal the loyal standard-bearer of Hallerian doctrine as to the autonomy of the heart: that its rhythmic contractions are consequent upon inherent muscular "irritability," and independent of nerve-supply. In our own time, Ehrlich defined irritability as "the most obscure phase of physiology." In his monograph on the movements of the iris (1767)[4], Fontana confirms Haller and Caldani in associating the pupillary reflex with the reactions of the retina to light. At the same time, he noted the effect of cerebral excitement upon the dilatation of the pupil, thus anticipating the "psychic pupillary reflex," of Gratiolet (1855). In 1778, he discovered Fontana's space and the ciliary (Fontana's) canal[5].

A pioneer in histology, Fontana studied the effects of acids, alkalies and colored solutions upon the irritability of tissues and red blood corpuscles. With such microscopes as he had, he appears to have noted the cell nucleus in the epidermis of the eel; the pus cells and the compressibility and elasticity of red blood corpuscles (Bilancioni). He teased out the fasciae and the cylindric fibrils in muscle preparations and noted the transverse striae. Cirincione points out that Fontana described the axis cylinder of nerve (*cilindro primitivo nervoso*) before Remak and the nerve sheath before Schwann (1779).[6] The same observant spirit is apparent in his studies on the structure of the

brain, and on the effects of compression of the nerves. While visiting the Hunterian Museum in London (1779), Fontana made microscopic observations on the regeneration of nerve, simultaneously with Cruikshank.[7] In 1783, he described hydatid disease of the brain in sheep and man.[8] From the clinical effects of this malady, he takes the extremist view that nervous and mental diseases are attributable to lesions in the nervous system and not to psychic disturbances.

Fontana's pioneer experiments on serpent venoms (1767-81)[9] are classical in the history of toxicology and pharmacology. Employing the common European viper (*Vipera berus*), he found that it is immune to its own venom; that the venom is ejected and injected by the canalized teeth; is of a gummy consistency, neither acid nor alkaline, or as Lucien Bonaparte saw later, an albuminoid; and that, in the serpent itself, it is not so much an offensive weapon as a digestive juice (Calmette). Its fatal effects he attributes not to clumping or dissolution of red blood cells, but to muscular atony and paralysis. Fontana made innumerable experiments with the venom, not only upon animals, but also upon himself, even to the extent of swallowing the poison. In all this, he was the venerated precursor of Weir Mitchell, Reichert, Noguchi, Fraser, Kyes and Calmette. He extended his researches to the effects of animal and vegetable poisons, notably curare and *Laurus cerasi*. In like manner, Fontana was forward and prominent in those investigations of "dephlogisticated air," "fixed air" and other gases discovered by Cavendish, Scheele, Priestley and Black, which remained meaningless up to the luminous synthesis of Levoisier. Fontana's discovery that carbon will absorb gases (1777) was confirmed by Priestley himself (1779). In the matter of physical experimentation, Fontana was a facile inventor of instruments. Among these was an apparatus for the inhalation of oxygen in phthisis (Bilancioni). As a botanist, he was equally active and made his mark in vegetable pathology by his investigations on the rust of grain (1767) and spurious ergot (1775).

Like all the greater physicians of the 18th Century, Fontana was thus one of the most versatile biologists of his period. Yet, the variegated mass of his experimental work has been almost completely overshadowed by his extraordinary museum of wax preparations at Florence. The medical collection of this exhibit originally comprised some 3000 specimens and 24 life-sized statues, viz., 4 each of the muscular lymphatic systems, 8 of the circulatory system, 5 of the nervous system, one each of the ligaments and chyliferous system and one gravida. The viscera comprised 650 separate pieces; the brain 55 and the nervous system, the finest of all, over 500 pieces, apart from the man-sized *écorchés*. In addition, there were representations of all phases of labor and obstetrics, of surgical operations, of mushrooms and plants. Fontana was not only the inventor of colored anatomic illustration in wax, but through the cooperation of his assistant Manzolini, probably the greatest artist in this medium in his period. His anatomic preparations were executed as a sort of composite figuration from many dissections, in keeping with the "anatomic norm" of Albinus. The photographic reproductions from the Montpellier collections, published by Bilancioni;[10] are not only accurate in detail but also beautiful in execution. So impressed was Joseph II with the Florentine collection that he ordered Fontana to reproduce it in entirety for the Josephinum in Vienna. Upon the death of this kindly and kingly patron, Fontana's troubles began. Leopold II, a colder and narrower man, did not hold the anatomist in esteem. A gigantic *écorché,* which Fontana had begun, proved a fiasco, through cracks in the wooden framework, not remediable by varnish. He became involved in religious and political tangles of a distressing character. When the French entered Italy he espoused the cause of the Republic, was subsequently arrested and imprisoned by the Austrian authorities and, upon his rescue by the Napoleonic forces, was required to duplicate his wax collections in France. Thirty-three specimens in the Anatomic Museum at Montpellier are all that survive of this episode. In his sympathies with the French Revolution and Republic, Fontana was obvi-

ously a stifled precursor of the *Risorgimento.* In this terminal episode, he had discovered that patriotism, so often "the last refuge of a scoundrel," yet "thrives upon the blood and tears of those whose hearts it has broken." As he advanced in years, he adopted an indifferentist philosophy, allied to the Stoic *ataraxia,* concerned himself not at all about foreign adulation and so lived more at ease with his captious fellow townsmen. He died on March 9, 1805, at the age of 85, and was buried with great pomp in the Florentine Pantheon, Santa Croce, where repose the remains of so many illustrious dead.

BIBLIOGRAPHY

1. The best account of his scientific work is that of G. Bilancioni, Archeion, Roma, 1930, XII, 296-362, 6 pl.
2. Fontana: Expériences sur les parties irritables et sensibles. Mémoires de Haller, 1757, III. Cited by Bilancioni.
3. Fontana: Ricerche filosofiche sopra la fisica animale. Firenze, 1775.
4. De'moti del iride. Lucca, 1767.
5. Letter to Murray, 1778. Cited by Bilancioni, *op. cit.*, p. 311, footnote 15.
6. G. Cirincione. Rivendicazione a Felice Fontana [etc.]. Acad. Med. Napol., 1890.
7. Fontana: Lettera al Sig. Durcet. *Opusc. scelti sulle scienze e sulle arti.* Milano, 1783, VI, 108.
8. Sopra le idatidi. *Opusc. scelti,* Milano, 1783, VI, 108. *Raccolta ferrarese di opusc. sc.,* Vinegia, 1783, XIII, 130.
9. Ricerche filosofiche sopra il veleno della vipera. Lucca, 1767. Traité sur le venin de la vipère. 2 v. 4°. Florence, 1781.
10. Bilancioni: *op. cit.*, pl. I-VI.

F. H. GARRISON.

THE PROBLEM OF ACUTE APPENDICITIS IN NEW YORK CITY*

SHEPARD KRECH
Assistant Surgeon, Bellevue Hospital
New York

By special arrangement this article appears also in The New York State Journal of Medicine for March 15, 1935

INTRODUCTION

Vast quantities of words have been written and spoken about acute appendicitis. We have had it paraded before us in medical literature and discussed repeatedly at medical meetings. It has become such a common part of our professional diet that we have lost our taste for it. We shrug our shoulders and accept it as an inevitable evil. We wonder what more can possibly be said about it, and we go to medical meetings with a feeling of resentment and boredom that we are asked to listen to just another paper on appendicitis. But when we hear that the operative mortality of acute appendicitis in fourteen representative New York hospitals was 7 per cent in 1921 and only one-tenth of one per cent less in 1931, we may agree that the time has not yet come to dismiss the subject. On the contrary, it is ripe for a united and constructive effort on the part of the medical profession of New York toward correcting this condition.

Some time before his death, Dr. Linsly Williams, Director of The New York Academy of Medicine, suggested that a survey on acute appendicitis, similar to those that have been conducted in other cities, should be undertaken. It is with deference to his wishes and respect to his memory that I offer you this survey.

---

* Presented before a Stated Meeting of The New York Academy of Medicine, November 8, 1934.

General Consideration of the Incidence and Mortality of Appendicitis

In 1927 Dr. J. V. De Porte, Director of the Division of Vital Statistics in the New York State Department of Health, undertook a "Sickness Survey" of rural New York. His findings are based on weekly reports received over a period of one year from 107 physicians in 33 counties serving a total population of about 100,000. Each physician agreed to report only new cases as they were seen for the first time. No subsequent visits were reported. It is an interesting side-light on the rural incidence of certain diseases:

Measles	1201
Bright's Disease	1134
Appendicitis	966
Gonorrhea and Syphilis	908
Chicken-pox and Whooping-cough	882
Scarlet Fever and Pneumonia	566
Diabetes	505
Cancer (all forms)	464

The report does not state how many of these cases of appendicitis were of the chronic type, or how many came to operation. But at least it shows that the diagnosis is made with astonishing frequency, and is a fair indication of the prevalence of appendicitis.

The concentrated attention of the medical profession, the Department of Health, and the laity in New York City has been directed for many years against the contagious diseases. The result has been a very marked reduction in the number of deaths from these causes. The Health Department figures show that in 1920 there were 2,876 deaths from the following six contagious diseases: measles, whooping-cough, scarlet fever, diphtheria, typhoid fever, and epidemic meningitis. In 1933 there were 629 deaths from these same diseases. This represents a reduction of 78 per cent. The number of deaths from appendicitis, how-

ever, has shown a gradual rise during the same period from 792 to 1,149, an increase of 45 per cent. (See Chart I.)

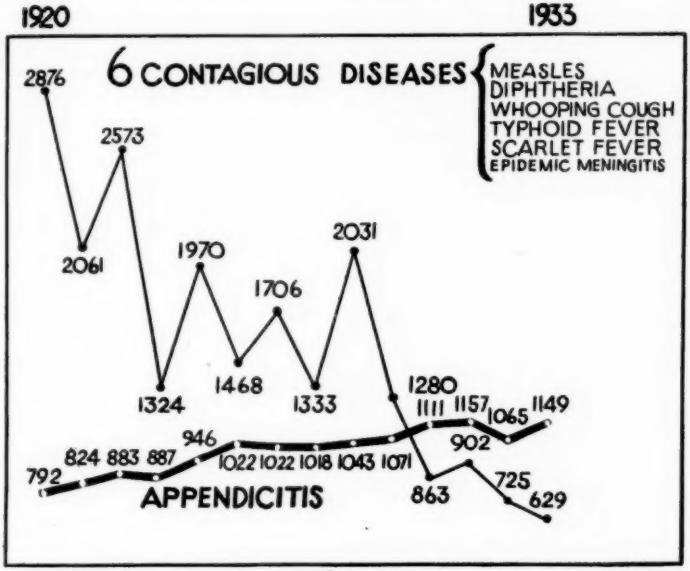

CHART I.—Numbers of deaths in Greater New York City from six contagious diseases, and from appendicitis, 1920-33.

In 1930, 1931, and 1932—(the period covered by the Maternal Mortality Survey conducted by The New York Academy of Medicine) there were 2,041 deaths from puerperal causes registered with the New York City Department of Health. In the same period there were 3,333 deaths from appendicitis.

The reduction in the mortality (deaths per 100,000 of population) of diphtheria and tuberculosis is compared with the rise in the mortality of appendicitis. (See Chart II.) Diphtheria and tuberculosis have been the objects of a well-organized attack on the part of the medical profession, health officials, and the laity; appendicitis has not. These figures are taken from the actual death certificates, which implies an accuracy of diagnosis which is not with-

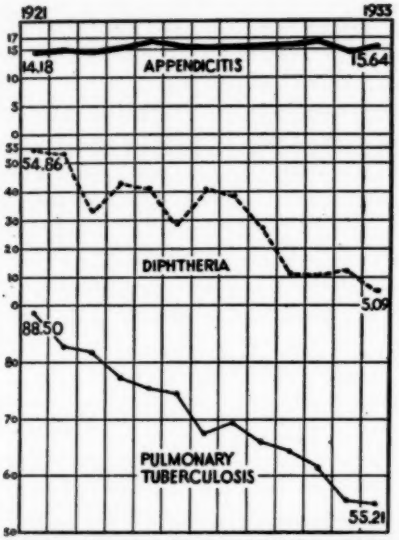

CHART II.—Comparative mortality per 100,000 population of appendicitis, diphtheria, and pulmonary tuberculosis in New York City from 1921 to 1933. The New York City Health Department bases its rate of diphtheria on the number of deaths per 100,000 under 15 years of age.

out a factor of human error. However, the general trend is obvious, and lacking any other better method of obtaining this information, they must do for the present. The fact remains that appendicitis is a common condition and its mortality in New York City is too high.

THE SURVEY

The rest of this paper will be devoted to an analysis of 4,542 cases of acute appendicitis, prepared from a personal study of each individual chart in the record rooms of fourteen hospitals in Manhattan. An attempt has been made to draw a ten-year comparison between the years 1921 and 1931. In a few instances hospital records were not available for 1921, so the nearest subsequent year was taken in order to carry out the comparison. Unfortunately there has not

been time to bring this record up through 1933, as the work was started in 1932 and only recently finished. I wish to thank the directors of surgery, the superintendents and the record room employees of these hospitals for their cordial reception, and to say that in no instance was any diplomatic difficulty encountered. The following hospitals cooperated in this work: Bellevue, Beekman Street, Broad Street, French, Harlem, Lenox Hill, Mt. Sinai, New York, Polyclinic, Post-Graduate, Presbyterian, Roosevelt, St. Luke's and St. Vincent's. This is obviously a representative list of the Grade A hospitals, and the result in these hospitals might fairly be expected to be somewhat above the average for the whole city.

Only those cases of acute appendicitis in which the diagnosis was certain beyond any reasonable doubt have been included. Many cases were rejected in which the operative description or pathological findings were unconvincing. No cases of so-called chronic, or sub-acute appendicitis were included, nor were any of those which were operated on during the interval between attacks. In 1921, 2,208 cases were operated upon in these 14 hospitals. In 1931, 2,334. In some of the following statistical charts the two years have been combined because the figures of either year were of no particular significance from a comparative standpoint.

Age Incidence and Age Mortality

There was a variation of less than 1 per cent throughout in the age incidence in the two years, and therefore they are charted as one. In 29 cases the age was not recorded on the

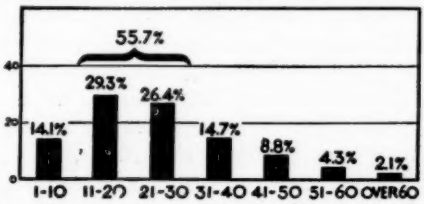

Chart III.—Age incidence of acute appendicitis in 14 New York hospitals for 1921 and 1931 combined.

charts. There is nothing particularly interesting here except further evidence that acute appendicitis is primarily a condition of youth and young adult life, nearly 56 per cent of all cases occurring in the second and third decades. (See Chart III.)

The comparative mortality according to age, on the other hand, is of some interest, because it shows in 1931 a marked increase over 1921 in the older age groups. This might be accounted for on the basis that people over 50 have been unable to throw off the ill effects of unemployment and economic stress as well as the younger groups have, and have suffered an attack of appendicitis in a condition of comparatively greater lowered resistance. (See Chart IV.)

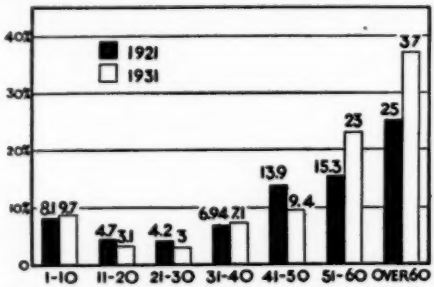

CHART IV.—Comparative mortality as to age in 1921 and 1931.

SEX INCIDENCE AND SEX MORTALITY

The incidence according to sex checks pretty well with other authors—68 per cent males—34 per cent females. The mortality according to sex is a different story. The Health Department figures for the City in 1921 show 495 deaths among men and 329 among women, and in 1931, 682 among men and 475 among women. In the rest of the State the same relative picture holds true. This chart gives us a good picture of the increase in the number of deaths in both sexes during the 10-year period in both City and State. The actual mortality among men was slightly higher than that among women (7.2 per cent and 6.8 per cent in the hospitals studied). (See Chart V.)

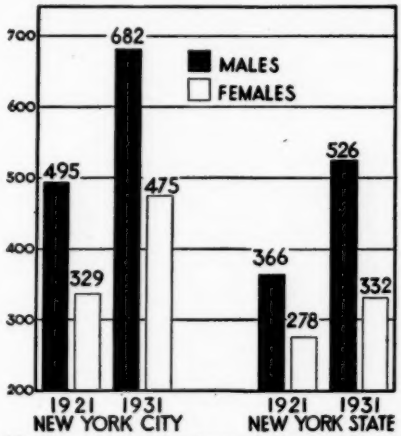

CHART V.—Numbers of deaths from all forms of appendicitis as based on figures supplied by the Health Departments of the City and State of New York.

SEASONAL VARIATION

The question of seasonal variation has been discussed by others. This chart is based on only 2,672 cases. It is difficult to explain the marked rise during the month of March. Most of us, however, have probably observed in our hospital work the later rise that occurs during the summer months. The curve seems to follow somewhat the curve of exacerbation of peptic ulcer. There are some who might offer it as evidence in favor of the bacterial theory of the etiology of ulcer. At least we are all familiar with the apparent clinical association that exists between symptoms of peptic ulcer and a pathological appendix. Seasonal variation is a matter which would bear further study. (See Chart VI.)

PREVIOUS ATTACKS

The question of previous similar attacks was studied with the hope that it might cast some light on the attitude of mind of the public. If it could be demonstrated that in 1931 more patients sought admission in hospitals during their first attack of abdominal pain than was the case in

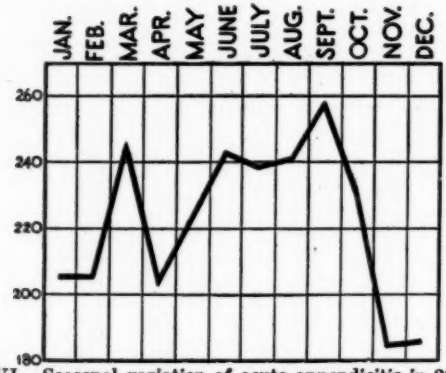

CHART VI.—Seasonal variation of acute appendicitis in 2672 cases.

1921, it might be favorably construed as a step forward. Here we are confronted with a discouraging surprise. In 1921, 40 per cent of the hospital charts contained no information about previous attacks, and in 1931 nearly 45 per cent.

Discarding all charts that contained no information, we find that in 1931 fewer patients were admitted during their first attacks than in 1921—46.4 per cent as against 48.7 per cent. This can hardly be construed as evidence that the public has become more "appendix minded."

CATHARTICS

I hesitate to present any figures on cathartics because of a woeful lack of information. In 1921, 69 per cent of the hospital charts were completely lacking in any mention of catharsis, and in 1931, 63 per cent. Again in 1921 such information as was given was incomplete in 20 per cent of the charts, and in 1931, 16 per cent. We are, therefore, reduced to such a small number of cases in which this information was complete—230 in 1921 and 468 in 1931—that any conclusions would be of little value. No attempt was made to compare the mortality in the "cathartic patients" with that in the "non-cathartic" group because of this incomplete information. Nor was it possible to answer many

other important questions in this category, such as: Where lay the responsibility for prescribing cathartics? What kinds predominated? What was the effect on the symptoms, and what apparent relation did catharsis bear to the pathology found at operation and the subsequent course of the illness?

There are some who still feel that too much emphasis has been laid on the whole question of catharsis. The anti-cathartic campaign that has been waged in Philadelphia is now familiar to all. Several years ago the County Medical Society there sent out 300,000 stickers to 3,813 physicians to be attached to their monthly bills. The sticker read:

"Warning—In the presence of abdominal pain never give a laxative. Give nothing by mouth. Apply ice-cap or hot water-bottle. Call your family physician. Abdominal pain which lasts over six hours is usually serious. This warning is published by the Philadelphia County Medical Society and endorsed by the Department of Public Health."

Further propaganda was launched through the press, radio, retail drug stores, and in the class-rooms of the public schools. Bower believes that the creditable reduction in the mortality of acute appendicitis in Philadelphia has been due in some measure to this anti-cathartic campaign. Those of us who are still skeptical should accept his views and those of many others—until someone has conclusively proven that the administration of cathartics in acute appendicitis is beneficial.

Time Element

The importance of the time element in acute appendicitis is axiomatic. (See Chart VII.)

Here we find evidence that the constantly repeated warnings about the dangers of delay have borne fruit. In 1931 there is a very notable increase in the number of patients who were admitted to these hospitals during the first 24 hours of their illness. There is also a corresponding fall in

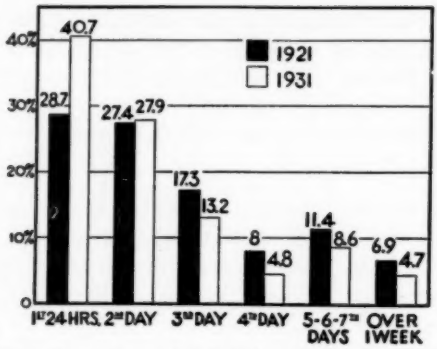

CHART VII.—Percentage of admissions based on time elapsed between onset of symptoms and admission.

the late arrivals. The 5th, 6th and 7th days have been grouped together arbitrarily, hence the apparent rise here. If they were divided into their 3 components, this rise would not appear.

In considering the time element, the factor of operative delay is obviously important. This is unavoidable in many instances. Patients who are admitted toward the end of the first 24 hours quite naturally are carried over into the second 24 hours before operation can actually take place and this holds through all the time groups. (See Chart VIII.)

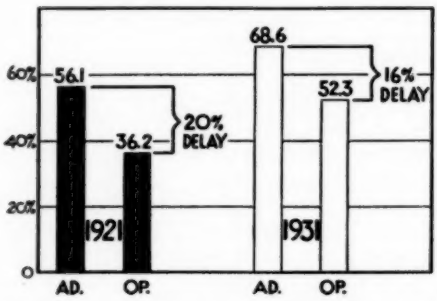

CHART VIII.—Theoretical factor of operative delay. Admissions and operations during first 48 hours of illness.

Chart VIII is based on admissions and operations during the first 48 hours of illness. We find that in 1921, 56.1 per cent of all patients were admitted during the first 48 hours, but only 36.2 per cent were operated upon during that period. This gives a theoretical factor of delay of 20 per cent. In 1931 this factor was reduced to 16 per cent. This same relative reduction in operative delay was found throughout the other time groups.

In spite of the fact that in 1931 many more patients were admitted during the first 24 hours of their illness, and in spite of the reduction in operative delay, we find that the mortality rate for each time group is actually higher than it was in 1921, with one exception—the first 24 hours. (See Chart IX.)

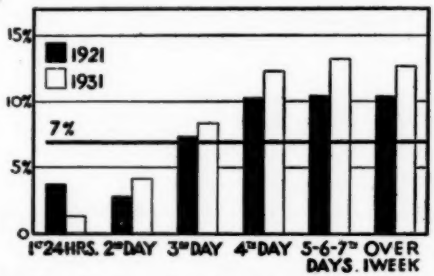

Chart IX.—Mortality in various time groups based on time elapsed between onset and operation.

The explanation does not lie in the time element alone. It must be sought elsewhere—possibly in the surgical management of the late cases. For although the mortality in the early stages may soon reach a theoretical irreducible minimum, it is to the treatment of the complications that arise in the later time groups that our attention should be directed—until the millennium when no patients will have to be operated upon after 48 hours.

Pathology

A study of the individual pathology in each case is of the greatest importance. Here we find the true explanation for the undiminished death rate in acute appendicitis. If it

were possible to have complete information and to devote more time to a painstaking study, we would also find here the true evidence of the skill and judgment of the individual surgeon. The removal of an early acute appendix is ordinarily a fairly simple procedure. But there is not a single surgeon here tonight who has not had his technical ability, patience and judgment taxed to their limits by the difficult appendix that is complicated by an abscess or peritonitis. It is only through these trying and bitter experiences that we learn to develop a humble and wholesome respect for this small but dynamic organ.

In studying the individual charts from the pathological angle the difficulty of interpreting the operative findings of others was impressive. But an honest effort has been made to do this with an open mind, and to classify each case as fairly and accurately as possible. I admit a considerable factor of human error, but at least it is a constant one, due entirely to the interpretations of a single individual.

I have followed the pathological classification in use at the Presbyterian and a few other hospitals. There are 5 groups: 1. Acute appendicitis (uncomplicated); 2. Acute appendicitis with acute local peritonitis; 3. Acute appendicitis with peritoneal abscess; 4. Acute appendicitis with acute diffuse peritonitis; 5. Acute appendicitis with progressive fibrino-purulent peritonitis. (See Chart X.)

1. *Acute Appendicitis* (*Uncomplicated*). The first group is simple and clear cut. The pathological picture may vary from the appendix which shows injection of the serosal surface, edema of its coats, invasion by polymorphonuclear leukocytes, and erosion of the mucosa, to one of advanced gangrene. But only if the process has remained entirely limited to the appendix has the case been classified in this group. The presence of clear peritoneal fluid has not been interpreted per se as peritonitis. As might be expected, the great majority falls into this group.

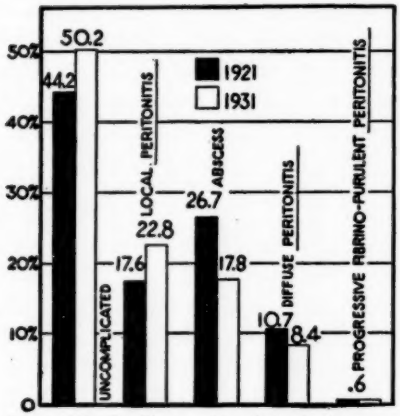

CHART X.—Incidence of pathological types.

2. *Acute Appendicitis with Acute Localized Peritonitis.* Here the pathological process has escaped beyond the confines of the appendix itself. We find the deposition of plaques of fibrin about the appendix, cecum, and possibly neighboring intestinal loops. The omentum will probably be involved in the inflammatory process in its ever watchful role of guardian of the peritoneal cavity. The wall of the cecum and nearest loops of small intestine will be injected and somewhat dilated, and there may be some clear or turbid or even frankly purulent fluid in the vicinity.

3. *Acute Appendicitis with Peritoneal Abscess.* This classification is simple if we merely bear in mind just what an abscess is. Here there will be a circumscribed collection of pus, usually of foul odor, maybe a few drops or maybe many ounces. It will be completely walled off from the rest of the peritoneal cavity. The appendix will probably be found in the abscess cavity or one of its walls. These walls will be composed of different structures depending on the location of the abscess. They are the result of a local peritonitis. They are the brick and mortar produced by the peritoneum and omentum.

4. *Acute Appendicitis with Acute Diffuse Peritonitis.* In attempting to allocate cases to this 4th group I have tried to bear in mind constantly the definition made by Dr. Joseph Blake in 1903, and recently revived by Potter: "By diffuse peritonitis I mean an established progressive inflammation without definite limitations, evidenced by extensive redness of the peritoneum, a definite inflammatory exudate, a tendency to general involvement and intestinal paralysis."

There are some who prefer the term "spreading peritonitis." Is not the whole process of acute appendicitis from its onset a constantly spreading and advancing one? But what determines the prognosis of the patient, the immediate procedure and after-care? It is the extent to which this process has spread. There are many cases of an acute inflammation of the appendix that will progress to a local peritonitis. There are many cases of local peritonitis that are still spreading and will advance to a diffuse process unless arrested by the removal of the appendix and by the natural tissue defenses. There are many cases of localized abscess which would have advanced through the stages of a spreading peritonitis to a diffuse peritonitis if they had not been arrested by these defenses. The term "spreading peritonitis"—except for reminding us of the fundamental characteristic of appendicitis—has caused some confusion in the accurate classification of the disease in its various phases.

One of the most striking facts of this whole study has been the too great frequency with which many surgeons have classified cases as diffuse peritonitis in the presence of very insufficient evidence. It is a difficult diagnosis to establish especially through a McBurney incision. But it can be done with reasonable accuracy if a careful and sincere effort is made. It is obvious that the greater number of cases that are dubiously classified as diffuse peritonitis, the lower will be the mortality in this group. I cannot help but feel that if greater care and accuracy were observed at the

time of operation, we would find that many cases would not be classified as diffuse peritonitis, and the mortality in this group would be even higher than its present startling rate.

5. *Acute Appendicitis with Progressive Fibrino-Purulent Peritonitis.* The last pathological group is one that is not often found in the operating room, but more often at autopsy. Here there are multiple abscesses scattered among the coils of the intestine, a massive production of fibrin with loops of intestine fused together in friable masses, frequently causing angulations and mechanical obstructions —always causing a complete paralysis and tremendous distention of the intestinal tract. Whether this is a pathological entity, whether it is the inevitable end result of all unarrested cases of diffuse peritonitis, whether it is due to a certain type of micro-organism or to a variation in the defensive mechanism of the individual, is not clearly understood. Fortunately it is a fairly rare condition. If recovery takes place it is nearly always after multiple operations for the drainage of abscesses and will probably be followed by chronic intestinal obstruction due to adhesions and invalidism of varying degree.

You will notice a rise in the first two pathological groups, and a fall in the abscess and diffuse peritonitis groups. This can be accounted for in large measure on the basis of the time element. It is logical to suppose that, with more patients being operated upon in the earlier time periods, we should find a higher percentage of uncomplicated and early local peritonitis cases. The increase in these cases is almost offset by the decrease in the number of abscess cases. The decrease in the number of diffuse peritonitis cases may be due in some measure to too strict an observance of my self-imposed rules of pathological diagnosis. Diffuse peritonitis usually comprises about 10 per cent of all cases in a series of this nature. If it is higher than this one should be suspicious. But it is not the frequency of its occurrence that interests us—it is its mortality. (See Chart XI.)

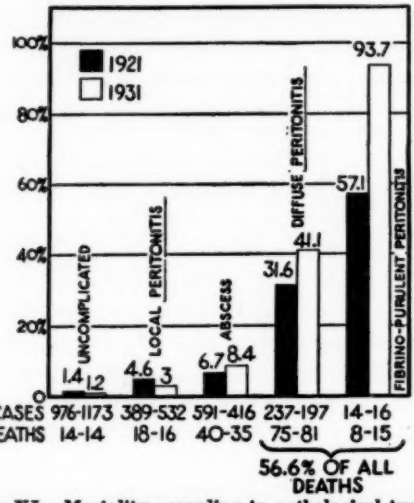

CHART XI.—Mortality according to pathological types.

The mortality in the various pathological groups is shown graphically. It is an old story. It has been reiterated by many authors. Fifty-six per cent of all persons who died in this series fell into the diffuse and fibrino-purulent peritonitis groups.

SUMMARY

From this mass of statistics certain conclusions can be drawn. Their significance should not be overrated, but they should be of some practical value if checked from time to time by further surveys.

1. Between 40 per cent and 60 per cent of hospital records are still deficient in some important respects. More complete records would greatly aid toward a more accurate and complete knowledge of existing problems and hence toward their solution.

2. There has been a considerable rise in the mortality among the older age groups, possibly because of the recent period of economic stress.

3. The New York City public is seeking hospitalization earlier in their attacks of appendicitis than formerly, but a large proportion of them still expect their attacks to subside and are probably freezing their right lower quadrants.

4. It is encouraging to note that in these fourteen hospitals definite improvement has been made towards shortening the period of operative delay.

5. In spite of these evidences of progress the mortality rate still remains too high—7 per cent.

6. No light has been cast on the cathartic problem because of a regrettable lack of information.

7. The mortality in the simpler pathological groups is apparently approaching an irreducible minimum. In the diffuse peritonitis group it is conservatively estimated to be over 30 per cent. In the fibrino-purulent peritonitis group it is somewhere between 50 per cent and 95 per cent.

Conclusion

I have purposely avoided any discussion of when or when not to operate, what type of incision or anesthesia to use; when and why and how to drain; how to treat diffuse peritonitis with its accompanying paralytic ileus. These questions have been elucidated by others, and do not lie within the scope of this paper. This survey has been presented with the hope that it will not fall on barren ground. What method of attack should be adopted in dealing with the problem of appendicitis is a question which we, the medical profession, must determine.

The first step must be an honest confession that our record in New York can be improved upon. The second one should be an individual and yet united effort on the part of each hospital group to do something about it. A great deal can be accomplished by a frank exchange of views at staff conferences held at regular intervals. Here each fatal case of appendicitis can be discussed from all angles—the completeness of the record, the correctness of diagnosis, the

quality of judgment and surgical technique, the type of post-operative care, the cause of death and post mortem findings. This is the regular practice at some hospitals but it should be done universally. It is largely by sharing his successes and failures with others that the individual gains in knowledge and experience; and in the last analysis the responsibility lies squarely on the shoulders of the individual.

To carry this thought still further to the third step, it would be of real educational value and a great step forward if every hospital would voluntarily agree to make a concentrated study of acute appendicitis for one year—to take histories and keep their records in a uniform way, to classify all cases pathologically according to some prearranged standard that would be acceptable to all, and to make a detailed report at the end of this time. These reports could be made directly to a non-partisan committee with authority to review and publish their findings. This would supply an excellent basis for comparison with future reports—for future reports would necessarily have to be made in order to observe progress.

Before closing, may I say a few words in defense of the family physician. This individual has received—and unjustly so—a large share of the blame for the factor of delay in acute appendicitis. The diagnosis of appendicitis is *not always easy:* in fact, we all know that at times it may baffle the most able and experienced. Many of us are inclined to forget the blessings of the hospital appointments which we are fortunate enough to enjoy. The "local doctor" who is not so blessed should not be blamed. It is a reflection on our system of medical education that we do not share with others the opportunities of equipment and experience found in our hospitals. The exercises of the Graduate Fortnight are doing much in an educational way. But it is unfortunate that the "local doctor" does not see the gangrenous ruptured appendix, the peritoneal cavity full of pus, the dilated paralyzed intestines, and feel the failing pulse of the patient who has spent several days with an icebag

on his right lower quadrant. One does not learn by listening to words. Our strongest impressions are created by actual observations. What really counts is the practical and tragic experience of seeing these patients on the edge of the grave.

Discussion

Dr. William W. Herrick: Dr. Krech deserves a great deal of credit for the completion and for the clear and convincing presentation of a very important task. Faced with the fact that the mortality from acute appendicitis in our more representative hospitals is 7 per cent, we must realize that the mortality in the community at large is probably higher. In appendicitis we have a disease which, with ordinary diagnostic and surgical skill is presumably remediable, and yet appendicitis has a mortality quite as high as that of enteric fever, a disease for which we have no remedy. This state of affairs, indeed, deserves a searching of method on the part of those who teach medicine, of those who practice medicine and of those who are practiced upon.

I am sure that as a student and as an intern, I had no adequate instruction in the dangers of abdominal pain or in the care essential in its management. Teachers of medicine are but human. We tend often unconsciously to suppress our errors of diagnosis and of operative judgment and technic, when those errors should be exploited for the benefit of the student. In every senior medical course and in every hospital particular emphasis should be laid upon mistakes in diagnosis and upon their clinical and the pathological aftermath.

Another factor in the mortality of appendicitis is the common practice of making too few house calls. It was the practice of an earlier day to see the patient with any acute condition daily, or perhaps twice a day. Now with the economic pressure, the patient does not crave the medical attention that he used to, neither does the physician wish to force upon the hard-pressed patient services which he thinks may not be necessary. The physician is inclined

to leave some of the responsibility on the patient, to say: "If you are not all right tomorrow, let me know and I will come again." In the question of an acute abdominal disorder, such an attitude may mean disaster. A way to avoid this is to enforce early hospitalization of cases of the acute abdomen which cannot be provided with adequate facilities for care at home, a care which may include hourly observation, with appropriate laboratory procedures.

Another source of danger is in our own processes of reasoning. These brave many possibilities of error. The method of logic which we so often must apply in diagnosis, per exclusionem in ordine, is so beset by error that frequently the single mind endeavoring to make a diagnosis goes astray. I believe it was Sydenham who said that there are times when one's faculties are holden from him; that is, when the fine coordination of brain and sense and hand is not operative at an efficient pitch and when through fatigue or what you will, mistakes of observation and of interpretation and of judgment creep in.

In diagnosis of abdominal pains such a situation can be shunned by the consultation. The surgeon and the medical man should share the responsibility for the diagnosis of the acute abdomen.

On the side of the laity, I think there has been an increasing, shall I say, disrespect for appendicitis. The average citizen considers it a fairly simple, straightforward matter, one that can be remedied by almost any surgeon. He is a little lax in sending for his physician and in the use of cathartics. Some attempt to re-educate the laity along these lines seems desirable.

Again the public should recognize one point of utmost importance, namely, that an appendectomy, while it may be a very simple operation, can be one of the most complex and difficult procedures, demanding all the skill and resource of the surgeon. Appendectomy should be entrusted only to surgeons thoroughly competent. A rule enforced by some appropriate organization should provide that major surgery of this type be done only by those thoroughly

qualified by training and experience. I would like to sum up the medical point of view by saying that there should be more adequate instruction in the subject of abdominal pain, and in the results of mistakes in its diagnosis and treatment. More frequent visits should be made in the home when the acute abdomen is under consideration. Each case of abdominal pain should have the benefit of both the medical and the surgical consultation. Early hospitalization of cases of this kind should be enforced, the laity instructed in the dangers of acute appendicitis and in the necessity of placing its management in the most competent of surgical hands.

Dr. John A. Hartwell: Mr. President, Dr. Krech, Dr. Parran, Fellow Guests of the Academy: I am afraid that I shall speak more as one who is retired from the practice of surgery than from an active surgeon's viewpoint. First I wish to comment upon the fact that the Academy possibly felt a little too chastened over a recent experience that was connected with a similar study to this called the study on maternal mortality. There were certain events connected with that which left an undying impression upon the minds of those of us who took part in it.

I rather regret that we did not advise Dr. Krech to entitle his paper, "The Problem of Acute Appendicitis in New York City—An Outgrowth of the Study on Maternal Mortality. A Challenge by the Obstetricians to the Physicians and the Surgeons," and then I think we would have had this hall filled; particularly if we had released this paper to the press, and it had appeared on the front page of all the papers this morning as: "One out of every fourteen cases of acute appendicitis dies. What are the surgeons going to do about it?"—or something of that sort.

We were severely criticized for the maternal mortality report because it did get out. It was not intentionally that this was done, but a good many of us felt that it had been a good thing because it did attract attention, and also it aroused the obstetrical portion of the profession to the fact that something should be done about it.

It is incumbent upon the Academy to see that this work yields results, for when 1,100 persons die in this city of appendicitis every year, it is a matter of major importance and becomes pretty nearly a public health problem. And when we find, as we do that the death rate is constantly rising from it in spite of the fact that patients have come earlier in 1931 than they did in 1921, it shows we are not going to conquer the problem entirely by getting all the people to come to the surgeons earlier. There is another element in it. And when we realize that when one is past the age of fifty, though it is rare that he has appendicitis, his chances of living are only about three in four, it is a very serious problem.

Too, Dr. Herrick pointed out, it should be remembered that these statistics are taken from fourteen of the Grade A hospitals and probably represent the highest type of treatment.

We don't know what the minimum death rate of acute appendicitis ought to be, but we do know that 7 per cent is too high, just as we know that the maternal mortality rate was too high, and since that report was published, definite steps have been taken to see that an improvement has been made in which the Department of Health is taking a part by having appointed an Advisory Obstetrical Council, which council is now engaged in studying the recommendations contained in the Academy report and endeavoring to put them into practice.

Another factor that Dr. Krech brought out is that the records, even in our best hospitals, are not as good as they should be. We do not like to emphasize that because these hospitals were very courteous and co-operative in giving every opportunity to Dr. Krech to study their records, but at the same time they like to know where they may profit and it is our experience that the hospitals eagerly accept any knowledge that will be of benefit.

It was very apparent that the uncomplicated pathological process ran parallel in each instance to the earliness

with which the patient came to the operating room. Early, the disease is a comparatively simple problem in the majority of instances, but even here there is enough trouble to cause a very considerable death rate.

The total number of cases was about 4,500 in the two years, a little over 2,000 in each year. That is a goodly number to make a careful study of.

What can we do about it? How can we proceed? We obviously can't proceed unless we can arouse interest. In the case of maternal mortality, we have to acknowledge, frankly, the profession was driven by the laity. The report came out and it was largely instigated by lay organizations and the profession was aroused only when the situation was emphatically called to their attention.

If an undesirable condition exists in appendicitis, it probably exists in a great many other surgical conditions. If we are satisfied with any bad condition that exists, we don't get any further. There are apparently many unnecessary deaths from appendicitis and it is certainly the duty of the profession to see that those unnecessary deaths do not occur.

Dr. Krech has made one specific suggestion as to how we should proceed; namely, that we ask all the hospitals to co-operate in an intensive study of the condition of appendicitis, keep their records fully and have those records analyzed by an impartial and carefully selected committee and reported upon to see exactly where there are factors that have been responsible for death that might be eliminated.

There are, somewhere along the line, elements that we may get rid of if we know all the facts and everybody's mind is intent upon it, and when there are 1,100 persons each year dying in this city of this disease and when the mortality in the acute condition rises as high as 7 per cent, we certainly should take steps to see that improvement occurs.

How shall we proceed to do this? Well, I suggest, Mr. President, that since the Academy has introduced the subject—and it really has been an outgrowth of the report on

maternal mortality—that the Academy take upon itself the responsibility through one of its committees to launch a study of this disease and possibly other surgical conditions along the same intensive lines that the study of maternal mortality took and learn wherein we can improve the situation. It is not worth while to do the hard work that Dr. Krech has done over two years, possibly longer, with the co-operation of fourteen hospitals and then have the paper simply filed away and forgotten. Such a work is only justified if it lead to some effort to improve the conditions that it describes, and I trust that the Academy will seriously recognize its responsibility and lead towards setting up a procedure such as Dr. Krech describes in the paper for making the intensive study that is necessary to be made.

For example, why did some 30 to 40 per cent of these patients get to the operating room only on the third and fourth day? Was it because they didn't inform anybody that they were ill? Was it because of the difficulties, the inherent difficulties of diagnosis, which is perfectly possible? Was it because someone in the line was careless, didn't take trouble enough to find out the situation? What were the factors that led to delay?

Again, what were the factors that caused the deaths in the cases where there was a local abscess, a condition that, as Dr. Krech pointed out, ordinarily is fairly easily dealt with, but in some instances may tax the best surgeon's ability? A complete analysis of that sort should lead to an improvement in the situation, and unless we accept that responsibility, I do not feel that we have done our full duty.

I wish to thank Dr. Krech in the name of the Academy for having undertaken this work and pushed it forward to this extent and made the suggestion that we go on with it.

Dr. Thomas Parran, Jr. (Albany): Mr. President, Dr. Krech, Fellow Members of the Academy: In the very cryptic statement of Dr. Krech as to the reasons why he undertook this study, I think very few of us have appreciated the enormous work involved. When we consider the task which he undertook some three years ago of analyzing the raw

data from these fourteen hospitals, of classifying and transcribing and interpreting these data, it is very difficult to appreciate the extent of the contribution he has made.

Many of us are familiar with statistical studies carried out by organizations of one sort or another, but it is quite rare, I think, to find a physician in practice, a surgeon, who has the time, the inclination, the ability and the energy to lift his eyes from the scalpel to the community problem with which he is dealing, and attempt to answer some questions in relation to it. This Dr. Krech has done with appendicitis in this city.

I think none of us should mistake the fact that this is a real problem, that appendicitis in its influence upon the health of the community is a very significant factor.

Reference has been made already to the discussions, the acrimonious discussions, I might even say, concerning maternal mortality in this city, and yet what are the relative losses as between deaths from puerperal causes and appendicitis? Last year in New York City, there were 665 deaths from all puerperal causes and 1,149 from appendicitis.

Let's compare a few more causes of death. Measles in the same year, 213; whooping cough, 129; scarlet fever, 59; diphtheria, 86; typhoid fever, 70; while appendicitis accounted for 1,150 deaths in this city. More than that, the great bulk of these deaths occurred in the younger and, therefore, the most productive age group, which lends even greater significance to the deaths from this cause. Seventy per cent of the deaths occurred under forty years of age.

Dr. Krech, it seems to me, was very modest in saying that his was not a scientific paper. Perhaps it was not in the sense that a surgeon considers a paper to be scientific, but actually it is a very scientific contribution. It is the first broad-scale study of the appendicitis problem in this city and as such, I think is a distinct scientific contribution, and one to which I hope the widest publicity will be given. I hope the facts which have been ascertained will be disseminated widely among the public and among the profession.

The truth of the matter is that we are making no progress whatever in regard to this appendicitis problem. We are familiar with progress which has been made in reference to many other diseases and conditions, and yet in regard to this very important disease, we are making no progress whatever. We are faced with a constantly increasing death rate.

Dr. Krech was very soft in some of his criticisms, it seems to me. He referred rather casually to the value of vital statistics data. Well, when he discussed more in detail the value of the hospital data, I think he proved that neither one of them is very good. The value of any vital statistics records or hospital records does not go beyond the accuracy with which the original entries are made. Many physicians, I know, place very little value on the data gotten out by health departments, but remember that the lack of value is due to the lack of accuracy of physicians in recording definitely the cause of death. As we look over these data, we would assume that nobody outside of the ward room dies of syphilis. We would assume that nobody except the charity patient ever died of alcoholism, simply because doctors hesitate to put down for their private patients these two and other causes of death.

When we come to study the hospital records in these 14 hospitals, time after time, Dr. Krech shows the data are lacking for 60 or 70 per cent of the cases. In other words, a large proportion of the records mean nothing. He has been very charitable in not pointing out which of those hospitals are the greatest offenders. I think a very significant service can be rendered to the staffs of those hospitals, a service which I hope they will ask Dr. Krech to render to them, by pointing out how they stand in reference to the other hospitals concerned. I hope some representatives of the surgical staffs of the hospitals are here tonight and that you will not lose this opportunity to find out from Dr. Krech wherein your records are lacking in comparison with these other institutions.

One of the discussors has said that this is a public health problem. Quite true, and yet I am very much gratified that

a recommendation is not made primarily for some action by a health department. It seems to me that in this instance there is an opportunity for the hospitals concerned, the surgeons concerned, under the aegis of such an organization as this to make a thoroughgoing study, using uniform records to ascertain some of the unknown factors in this situation.

We do not know why it is that the male is 50 per cent more susceptible to appendicitis than the female, a very important question, it seems to me, to which we should find an answer. We do not know why the number of cases and the number of deaths in September double those in December and January. What are the factors which contribute to this selective sex incidence and the selective seasonal incidence of appendicitis? Broad epidemiological studies are obviously needed on those two facts which may throw some light on prevention.

I think that all of us recognize if appendicitis is recognized early, promptly operated upon, the mortality is about one-seventh, as shown by these figures, of the average mortality. Here there were 1,149 deaths last year in this city. Certainly that should be reduced to 100 or 200, if the proper effort is brought to bear upon it.

It seems to me that here is another great opportunity for service on the part of this organization to study thoroughly this problem. A splendid start has been made. Much more data are needed and can be assembled, the results of which, I am sure, will mean lives saved, deaths reduced from this cause in this city.

Dr. J. A. McCreery: I have been rather on the side lines, perhaps, in this study of Dr. Krech's. I have gone over with him his books of records from the different hospitals, his master charts, and have discussed with him at considerable length his findings and thoughts on his report. I don't think that the Society quite realizes the amount of time, the amount of careful thought that has been put into this study.

There is one point which Dr. Herrick brought out which I think needs emphasis and that is the question of the

instruction of the undergraduate and perhaps to a somewhat lesser extent of the intern in the subject of the acute abdomen and of the acute appendix. Dr. Krech has shown tonight that the acute appendix is one of the major causes of death in the City of New York in the course of a year, and yet as we look over the courses of study in the Grade A medical schools, we are forced to realize that through the increased demands for time on the part of all departments, the amount of time that can be given to the basic subjects—which perhaps those of us who are in general practice feel are of more importance—is being cut down. In one school the amount of time which has been devoted to the subject of appendicitis has been cut down 80 per cent in the last few years.

I know it is hard to squeeze a few more hours into the curriculum, but I do feel that if in the future it will be possible to give more time to these acute conditions, the end results as shown in mortality and morbidity figures, will be very much improved.

Dr. C. W. Crampton: Mr. President, I have been very much instructed by the speakers this evening and there have been many points which seemed to me of considerable importance, one of which is the point mentioned by Dr. Hartwell. But there is an apathy in the medical profession with reference to this point of appendicitis. I think twenty years ago the subject was brought out to a far greater audience and twenty years ago a great deal of the discussion was of an acrimonious nature by medical men against the surgeon, and they were answered in kind. I recall, I think many of you will recall, many such sessions.

I should like very much to hear if any of the speakers can add to our knowledge of the etiology of this disease. It is perhaps acknowledged to be an infection. I am very much interested in the bacteriology of this disease, in its immunology. Very little has been written, but some things have definitely been written in the last fifteen years on that subject. I should like to know if there is any evaluation of these points.

I should like very much to know, for I am one of the least of those who is sometimes called on in preventive medicine to give advice, how to avoid disease, how the public may be instructed to avoid such things as appendicitis. I should like very much to know more of the preventive side of this whole matter and if there is not time tonight, if this is to be referred by the Academy to its appropriate committee for energetic and vigorous pursuit, I suggest a very strong effort be made to develop a preventive side of this subject, its bacteriology, its immunology, as a very positive element in the handling of the whole thing from the standpoint of organized medicine.

Dr. G. W. Kosmak: Well, Mr. President and Members, I have been very much interested in what Dr. Krech has said and also in the general tenor of his paper, because he has taken a precaution to avoid some of the pitfalls of the other committee.

I noticed that he was very careful not to stress one factor in his investigation which gave the other committee a great deal of trouble and which created a good deal of disturbance, namely, that of preventability. I trust that when a new committee takes up its study, they will have the courage to investigate this particular phase of the situation. Although that feature created more or less dissension on the part of doctors in our maternal mortality study, I think it was the one thing which has directed as much attention to the need for reform as anything else.

I do not know whether I would have the courage to assert here what Dr. Krech failed to assert, or at least I didn't get it, that in these deaths there must have been a certain number that could have been prevented not by earlier attention perhaps, but what might be called proper attention. These, I know, are debatable points, but unless we have the courage to attack them and to bring them to the front, we will not get far with our remedies.

That is a thought which I had in mind as Dr. Krech spoke, and I trust that it will not be forgotten by the new

committee which is to investigate further this particular subject.

Dr. Edwin G. Ramsdell (White Plains): Mr. Chairman, before referring to the analysis of my own series of cases of acute appendicitis, I cannot refrain from a word of appreciation of the tremendous amount of work done by Dr. Krech in studying the enormous material from 14 different New York hospitals.

He has impartially, and with meticulous care, gone over the records of these cases in order to give us these interesting figures.

The object of my presentation is to contrast this study of Dr. Krech's with an analysis of 530 cases of acute appendicitis operated by one man, with a more or less uniform technic, in a community in which conditions can be more easily controlled than in New York City.

These cases were operated at the White Plains Hospital which serves a population group of 50,000 people and a group of doctors to whom the importance of early diagnosis and early operation has been repeatedly emphasized.

In conclusion I would like to refer to the total number of cases of acute appendicitis operated at the White Plains Hospital during the period covered by this study. There have been operated by other members of the Staff 775 cases with 28 deaths, or a mortality of 3.6 per cent. Including my own group of 530 cases the total number is 1305 cases, with 41 deaths, or a mortality of 3.1 per cent.

There are three distinct impressions which have been left with me as a result of this experience.

First, the findings at operation so often show a more extensive pathology than was indicated by the clinical symptoms.

Second, the outstanding factor in the appendicitis problem is early diagnosis and early operation.

Third, all credit should be given to the medical men of the community, the family doctors, who see these cases at the onset and get them to the hospital in time for early operation.

RECENT ACCESSIONS TO THE LIBRARY

Addison, C. Four and a half years.
London, Hutchinson, [1934], 2 v.

Arnold, A. Bibliographie über Sportmedizin und Grenzgebiete, 1928-1931.
Leipzig, Barth, 1934, 167 p.

Bainbridge, W. S. Report on seventh International Congress of Military Medicine and Pharmacy.
[Menasha, Banta, 1934?], 88 p.

Baker, J. R. & Haldane, J. B. S. Biology in everyday life.
London, Allen, [1934], 123 p.

Bartlett, F. C. The problem of noise.
Cambridge, [Eng.], Univ. Press, 1934, 87 p.

Bassett, C. Mental hygiene in the community.
N. Y., Macmillan, 1934, 394 p.

Becher, E. Einfache quantitative, klinisch-chemische Harn- und Blutuntersuchungsmethoden.
Jena, Fischer, 1934, 165 p.

Beck, B. F. Bee venom therapy.
N. Y., Appleton-Century, [1935], 238 p.

Beresford, J. D. The case for faith-healing.
London, Allen, [1934], 186 p.

Blacktin, S. C. Dust.
London, Chapman, 1934, 296 p.

Bogert, L. J. Nutrition and physical fitness. 2. ed.
Phil., Saunders, 1935, 566 p.

Bridges, M. A. [et al.]. Dietetics for the clinician. 2. ed.
Phil., Lea, 1935, 970 p.

Brown, L. G. Social psychology.
N. Y., McGraw-Hill, 1934, 651 p.

Calder, J. R. The conquest of suffering.
London, Methuen, [1934], 166 p.

Campbell, C. M. Human personality and the environment.
N. Y., Macmillan, 1934, 252 p.

Chalier, J. Précis des maladies infectieuses.
Paris, Doin, 1934, 700 p.

Committee on the Grading of Nursing Schools. An activity analysis of nursing.
N. Y., [Author] 1934, 214 p.

Committee on the Grading of Nursing Schools. Nursing schools today and tomorrow. Final report.
N. Y., [Author] 1934, 268 p.

Cumberbatch, E. P. Lectures on medical electricity.
London, Kimpton, 1934, 236 p.

Davis, G. G. Applied anatomy. 9. ed.
Phil., Lippincott, [1934], 717 p.

Draper, G. Infantile paralysis.
N. Y., Appleton-Century, 1935, 167 p.

Duncan, G. G. Diabetes mellitus and obesity.
Phil., Lea, 1935, 215 p.

Edens, E. Die Digitalisbehandlung. 2. Aufl.
Berlin, Urban, 1934, 154 p.

Filby, F. A. A history of food adulteration and analysis.
London, Allen, [1934], 269 p.

Frank, M. & Frank, W. Spezial-Diätkochbuch für Gallen- und Leberkranke.
[Karlsbad], Verfasser, [1934], 249 p.

Gerlach, Walther & Gerlach, Werner. Clinical and pathological applications of spectrum analysis.
London, Hilger, 1934, 143 p.

Gerson, M. Diättherapie der Lungentuberkulose.
Leipzig, Deuticke, 1934, 619 p.

Goldzieher, M. A. Practical endocrinology.
N. Y., Appleton-Century, [1935], 326 p.

Gray, R. N. Attorneys' textbook of medicine.
Albany, Bender, 1934, 865 p.

Haehl, R. Zum Arzt berufen.
Leipzig, Schwabe, 1934, 305 p.

Hall, C. R. A scientist in the early republic, Samuel Latham Mitchill.
N. Y., Columbia Univ. Press, 1934, 162 p.

Harris, D. T. Practical histology for medical students. 3. ed.
London, Lewis, 1934, 36 p.

Hass, J. Konservative und operative Orthopädie.
Wien, Springer, 1934, 363 p.

Hay, W. H. Health via food.
London, Harrap, [1934], 317 p.

Herčík, F. Oberflächenspannung in der Biologie und Medizin.
Dresden, Steinkopff, 1934, 220 p.

Hess, J. H.; Mohr, G. J. & Bartelme, P. F. The physical and mental growth of prematurely born children.
Chic., Univ. of Chic. Press, [1934], 449 p.

Hesse, F.; Lendle, L. & Schoen, R. Allgemeinnarkose und örtliche Betäubung.
Leipzig, Barth, 1934, 307 p.

Hinshelwood, C. N. & Williamson, A. T. The reaction between hydrogen and oxygen.
Oxford, Clarendon Press, 1934, 107 p.

Holmes, F. G. Tuberculosis, a book for the patient.
N. Y., Appleton-Century, 1935, 312 p.

Huxley, J. S. Scientific research and social needs.
London, Watts, [1934], 287 p.

Inman, P. A. Oil and wine.
London, Chapman, [1934], 293 p.

Janker, R. Röntgenganzaufnahmen des Menschen. Total roentgen ray photos of man.
Leipzig, Barth, 1934, 17 p. 41 pl.

Johnstone, R. W. A text-book of midwifery. 7. ed.
London, Black, 1934, 463 p.

Kagan, S. R. Jewish contributions to medicine in America. (1656-1934.)
Boston, Boston Med. Pub. Co., 1934, 549 p.

Kahr, H. Konservative Therapie der Frauenkrankheiten.
Wien, Springer, 1934, 297 p.

Kranz, P. P. Klinische Zahnheilkunde und ihre Grenzgebiete.
München, Lehmann, 1934, 349 p.

Laignel-Lavastine, P. M. & Molinéry, R. French medicine.
N. Y., Hoeber, 1934, 187 p.

Lampe, R. Dieffenbach.
Leipzig, Barth, 1934, 219 p.

Laquer, F. Hormone und innere Sekretion. 2. Aufl.
Dresden, Steinkopff, 1934, 368 p.

Leschke, E. Clinical toxicology.
London, Churchill, 1934, 346 p.

Luckiesh, M. Seeing and human welfare.
Balt., Williams, 1934, 193 p.

MacManus, E. P. Hospital administration for women.
London, Faber, 1934, 356 p.

Modern operative surgery. 2. ed.
London, Cassell, 1934, 2 v.

Müller, L. Das Glaukomproblem und die Glaukomoperationen.
Wien, Maudrich, 1934, 103 p.

Myerson, A. Social psychology.
N. Y., Prentice-Hall, 1934, 640 p.

National Conference on Nomenclature of Disease. Standard classified nomenclature of disease. [2. ed.].
N. Y., Commonwealth Fund, 1935, 870 p.

Neame, H. Atlas of external diseases of the eye.
London, Churchill, 1934, 110 p.

Okajima, K. Anatomie (Lehrbuch und Atlas der Anatomie der Japaner). 2. Aufl.
Tokyo, Tohodo, 1934, 3 v.

Phillips, M. C. Skin deep.
N. Y., Vanguard Press, [1934], 254 p.

Pillsbury, W. B. The fundamentals of psychology. 3. ed.
N. Y., Macmillan, 1934, 663 p.

Pope, A. E. & Young, V. M. The art and principles of nursing. [5. ed.].
N. Y., Putnam, 1934, 832 p.

Preissecker, E. Lumbalanästhesie in der Geburtshilfe und Gynäkologie.
Wien, Maudrich, 1934, 76 p.

Preventive (The) aspects of medicine. A series of lectures delivered at Kings' College Hospital Medical School.
London, Lancet, 1934, 376 p.

Prinz, H. & Greenbaum, S. S. Diseases of the mouth and their treatment. Phil., Lea, 1935, 602 p.

Proell, F. W. Klima und Zivilisation in ihrer Auswirkung auf Körper und Zähne. Berlin, Berlinische Verlagsanstalt, 1934, 138 p.

Rameses Girges. Schistosomiasis (bilharziasis). London, Bale, 1934, 529 p.

Reilly, (Mrs) E. (Mulqueen). Common sense for mothers on bringing up your children. N.Y., Funk, 1935, 380 p.

Richters, C. E. Die Tiere im chemischen Kriege. 2. Aufl. Berlin, Schoetz, 1934, 187 p.

Róheim, G. The riddle of the sphinx, or human origins. London, Woolf, 1934, 302 p.

von Rohr, L. O. M. & Boegehold, E. J. K. H. Das Brillenglas als optisches Instrument. Berlin, Springer, 1934, 281 p.

Rosenthal, F. Krankheiten der Leber und der Gallenwege. Berlin, Springer, 1934, 216 p.

Seifried, O. Lehrgang der Histopathologie. Berlin, Springer, 1934, 195 p.

Steyn, D. G. The toxicology of plants in South Africa. [Johannesburg], Central News Agency, 1934, 631 p.

Storer, R. V. Gonococcal infection. London, Bale, 1934, 91 p.

Thalhammer, E. Zahnheilkunde für den praktischen Arzt. Berlin, Urban, 1934, 148 p.

Thomas, A. W. Colloid chemistry. N. Y., McGraw-Hill, 1934, 512 p.

Thomson, (Sir) J. A. Biology for everyman. London, Dent, [1934], 2 v.

Troup, W. A. Therapeutic uses of infra-red rays. London, Actinic Press, 1934, 90 p.

Tuohy, F. Inside dope. London, Hamilton, [1934], 255 p.

Turner, G. G. & Arnison, W. D. The Newcastle upon Tyne school of medicine, 1834-1934. Newcastle upon Tyne, Reid, 1934, 221 p.

University of California. Bureau of Public Administration. Bibliography of crime and criminal justice, 1927-1931. N. Y., Wilson, 1934, 413 p.

Unwin, J. D. Sex and culture. London, Milford, 1934, 676 p.

Wakeley, C. P. G. Aids to operative surgery. 2. ed. London, Baillière, 1934, 225 p.

Waltham, J. W. Mine rescue and first aid. London, Griffin, 1934, 200 p.

Wheelwright, E. G. The physick garden; medicinal plants and their history. London, Cape, [1934], 288 p.

Zahorsky, J. & Zahorsky, T. S. Synopsis of pediatrics. St. Louis, Mosby, 1934, 359 p.

PROCEEDINGS OF ACADEMY MEETINGS
FEBRUARY

STATED MEETINGS

February 7

I. Executive Session—a. Reading of the Minutes; b. Election of Trustee; c. Election of Members.

II. Papers of the Evening—Symposium: The Facts About X-Ray and Radium Therapy; a. Principles and limitations, George T. Pack; b. Benign and malignant lesions of the female reproductive tract, Howard C. Taylor, Jr.; c. Present status of cutaneous x-ray, Grenz-ray and radium therapy, Anthony C. Cipollaro; d. The Roentgen ray treatment of diseases of the nervous system, Cornelius G. Dyke.

THE HARVEY SOCIETY (in affiliation with the New York Academy of Medicine)

February 21

The Fifth Harvey Lecture, "Specificity in Relation to Hormone and Other Biological Reactions," E. C. Dodds, Director of the Courthauld Biochemical Laboratory, The Middlesex Hospital, London.

SECTION MEETINGS

SECTION OF SURGERY—February 1

I. Reading of the Minutes.

II. Presentation of Cases—a. 1. A case of osteomyelitis of the frontal bone with intracranial abscess; 2. An unusual case of hyperthyroidism; 3. Strangulated inguinal hernia, with intestinal gangrene and perforation. Drainage, and subsequent resection, Howard A. Patterson; b. 1. A case of myxedema produced by removal of aberrant thyroid tissue thought to be a thyroglossal cyst; 2. 4 cases illustrating total thyroidectomy for angina pectoris and chronic heart failure, Carnes Weeks; c. Pretracheal abscess simulating an acute thyroiditis, Philip D. Allen; d. 3 cases illustrating paper, Grant P. Pennoyer.

III. Papers of the Evening—a. Benign strictures of the rectum, Grant P. Pennoyer; b. Pilonidal cysts and sinuses, Lester Breidenbach, H. Lynn Wilson (by invitation).

IV. General Discussion—Arthur W. Grace, Charles L. Janssen (by invitation), William Crawford White, Ralph Colp.

SECTION OF DERMATOLOGY AND SYPHILOLOGY—February 5

I. Presentation of Cases from New York Polyclinic Hospital.

II. Miscellaneous Cases.

III. Discussion of Selected Cases.

IV. Executive Session—Examination of cases is limited to members and their invited guests.

THE NEW YORK NEUROLOGICAL SOCIETY AND SECTION OF NEUROLOGY AND PSYCHIATRY

February 5

I. Papers of the Evening—a. An unusual gliotic process of the occipital lobes in Huntington and arteriosclerotic choreas, Charles Davison; Discussion, J. H. Globus; b. Psychopathology of time, Paul F. Schilder; Discussion; Clarence P. Oberndorf, Walter Bromberg (by invitation); c. Pick's disease—clinical and pathological considerations with report of a case, Armando Ferraro, George Jervis (by invitation); Discussion, Clarence O. Cheney; d. Psychosis as a reaction to mental diseases in the family, Lauretta Bender (by invitation); Discussion, Clarence O. Cheney, Bernard Glueck (by invitation).

SECTION OF PEDIATRICS—February 14

I. PAPERS OF THE EVENING—a. The pseudo-appendicular type of bacillary dysentery (Sonne-Duval, Flexner), Joseph Felsen, A. G. Osofsky, M.A. (by invitation); b. A case of aplastic anemia, Peter Vogel (by invitation); c. Eventration of the diaphragm, John F. Landon; d. A case of dermatomyositis, A. A. Weech (by invitation), Beryl H. Paige.

II. GENERAL DISCUSSION.

SECTION OF ORTHOPEDIC SURGERY—February 15

I. READING OF THE MINUTES.

II. PAPER OF THE EVENING—The shoulder, E. A. Codman, Boston (by invitation).

III. Presentation and analysis of patients with traumatic lesions of the shoulder, E. A. Codman.

IV. Results of operation on the shoulder, William Darrach.

V. GENERAL DISCUSSION—Opened by Philip D. Wilson (by invitation).

SECTION OF OPHTHALMOLOGY—February 18

I. INSTRUCTION HOUR, 7 to 8 o'clock—"The Answer to Blindness," Mr. Elliott S. Humphrey (by invitation), Vice-President, Division for Training and Research, The Seeing Eye, Inc., Morristown, N. J., Morris S. Frank and "Buddy", moving picture film.

II. DEMONSTRATION HOUR, 7:30 to 8:30 o'clock—a. Slit lamp studies; b. 1. The blind at work; 2. A display of work done by the blind, New York Institute for the Blind, The Light House Institute for the Blind.

III. SCIENTIFIC SESSION, 8:30 to 10:00 o'clock—a. Reading of the Minutes; b. Case reports; 1. Slit lamp study of a hole in the retina, Emanuel Rosen, Newark (by invitation); 2. Embolism of central retina artery relieved by nitro-scleran, Benj. Esterman (by invitation); c. 1. Blindness—its causes and prevention, Park Lewis, Vice-President, International Society for the Prevention of Blindness, Buffalo (by invitation); 2. Training and care of the blind, Mr. Edward M. VanCleve, Principal, The New York State Institute for the Education of the Blind (by invitation); Discussion, Conrad Berens, Mrs. Winifred Hathaway, Associate Director of the National Society for the Prevention of Blindness (by invitation).

SECTION OF MEDICINE—February 19

I. READING OF THE MINUTES.

II. PAPERS OF THE EVENING—a. Presentation of cases, Carnes Weeks; b. Total thyroidectomy for angina pectoris and congestive heart failure, I. Ogden Woodruff; c. Follow-up study of patients with total thyroidectomy, Morris Dinnerstein (by invitation)

III. GENERAL DISCUSSION—Herrman L. Blumgart, Boston (by invitation), William Barclay Parsons, Robert Levy.

SECTION OF GENITO-URINARY SURGERY—February 20

I. READING OF THE MINUTES.

II. PRESENTATION OF CASES—a. Congenital narrowing of the terminal part of the ureter; b. Treatment of infected hydronephrosis by nephrostomy, J. Sturdivant Read.

III. PAPERS OF THE EVENING—a. The problem of non-calculous uretero-pelvic obstruction, a review of three recent surgical cases, Augustus Harris; b. Aseptic uretero-intestinal transplants, Fedor L. Senger; c. New applications of old methods in the study of abnormal renal morphology, Jean Oliver (by invitation); Discussion opened by Paul Klemperer, Thomas J. Kirwin, Roy B. Henline.

IV. GENERAL DISCUSSION.

V. EXECUTIVE SESSION.

SECTION OF OTOLARYNGOLOGY—February 20

I. READING OF THE MINUTES.

II. CASE REPORTS—a. Cases illustrating the management of anterior surface subcortical fistulas in petrous pyramid suppuration, Mervin C. Myerson, discussion, R. Almour; b. Case of otitic meningitis cured, Wm. B. Allen (by invitation); c. Case of otitic meningitis with pseudo brain abscess, Max Rabbiner (by invitation).

III. PAPERS OF THE EVENING—Symposium on oto-rhinogenic meningitis—a. Newer concepts on otogenic meningitis, Samuel J. Kopetzky; Discussion opened by James G. Dwyer, Thomas J. Harris; b. Forced drainage in the treatment of oto-rhinogenic infections of the central nervous system, Lawrence S. Kubie, C. C. Hare (by invitation); Discussion opened by E. G. Zabriskie.

IV. GENERAL DISCUSSION.

V. EXECUTIVE SESSION.

SECTION OF OBSTETRICS AND GYNECOLOGY—February 26

(Program arranged by the Obstetrical Staff of the Methodist Episcopal Hospital, Brooklyn)

I. EXECUTIVE SESSION.

II. PAPERS OF THE EVENING—a. Introductory remarks, O. Paul Humpstone (by invitation), Senior Obstetrician; b. The prevention of puerperal sepsis, Harry W. Mayes (by invitation); c. Management of breech presentation (ten years' experience at the Methodist Hospital), Alexander E. Dunbar (by invitation); d. Some observations on acute mastitis and breast abscess, Henry T. Hagstrom (by invitation); e. Premature separation of the normally implanted placenta, George H. Davis (by invitation); f. A study of the respirations in the newborn, Robert A. Wilson (by invitation); g. A review of the premature babies at the Methodist Hospital (5 year report), Walter F. Watton (by invitation).

III. DISCUSSION opened by Charles Hendee Smith, E. Everett Bunzel, Hervey C. Williamson, Meyer Rosensohn.

AFFILIATED SOCIETIES

NEW YORK ROENTGEN SOCIETY *in affiliation with* THE NEW YORK ACADEMY OF MEDICINE—February 18

I. PRESENTATION OF INTERESTING CASES by Drs. Rowell, Kraus, Westcott, Irving Schwartz, and Bendick.

II. PAPER OF THE EVENING—Important considerations in the interpretation of orthopedic roentgenograms, Maurice M. Pomeranz.

III. DISCUSSED by Lewis Clark Wagner and Henry Jaffe.

IV. EXECUTIVE SESSION.

NEW YORK PATHOLOGICAL SOCIETY *in affiliation with* THE NEW YORK ACADEMY OF MEDICINE—February 28

I. PRESENTATION OF CASE REPORTS—a. Abscess of the liver due to Friedländer's bacillus, Henry S. Dunning, Charles T. Olcott; b. Primary atrophy of the adrenal glands with Addison's disease, Henry S. Dunning, James A. Moore.

II. PAPERS OF THE EVENING—a. Osteoid-osteoma, Henry L. Jaffe; b. Histogenesis of lymphosarcomatosis, J. C. Ehrlich, I. E. Gerber; c. Visceral neurogenetic sarcomatosis, Seaton Sailer.

NEW YORK MEETING OF THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE UNDER THE AUSPICES OF THE NEW YORK ACADEMY OF MEDICINE—February 20

I. Pituitary hormones and the blood sugar level, M. C. Hrubetz (introduced by H. B. Williams).

II. Influence of ascorbic acid of diet on sensitization of guinea pigs to neoarsphenamine, M. B. Sulzberger, B. L. Oser (introduced by K. Landsteiner).

III. Low basal metabolic rates obtained by low calorie diets in coronary artery disease, A. M. Master, H. L. Jaffe, S. Dack.

IV. Effect of suprarenal cortical hormone on natural resistance of pituitarectomized rats, D. Perla.

V. Effect of iodine and desiccated thyroid on anterior pituitary of goitrous and thyroidectomized rabbits, D. Marine, S. H. Rosen, C. Spark.

VI. Passage of human spinal cords containing virus of poliomyelitis to monkeys, M. Brodie.

VII. High temperature liver death syndrome, J. E. Sutton, Jr. (introduced by J. E. Sweet).

VIII. A new method of determining plasma fibrin, S. Rosenfeld, A. S. Wiener (introduced by B. Kramer).

MEMBERS ELECTED

February 7, 1935

Harold Lindsay Amoss.....125 Field Pt. Rd., Greenwich
Burnett B. Benson.....860 Park Avenue
James M. Bethea.....660 Park Avenue
Frederick W. Birkman.....115 East 61 Street
Marshall S. Brown, Jr.....75 East 55 Street
Thomas Ciaccio Caso .....159 East 49 Street
Alexander J. Chilko.....New Rochelle Hospital, New Rochelle
Agnes Conrad .....1215 Fifth Avenue
Irving Alexander Frisch.....110 East 90 Street
Burke C. Hamilton.....100 William Street
Clarence P. Howley.....59 West 12 Street
M. Beckett Howorth.....125 East 74 Street
Harry Vincent Judge.....46 Willett Street, Albany
Victor Wesley Logan.....10 West 58 Street
Currier McEwen .....444 East 66 Street
Gordon David Oppenheimer.....941 Park Avenue
Maurice C. O'Shea.....145 West 88 Street
Herbert Pollack .....73 East 90 Street

OBITUARY

WILLIAM CHITTENDEN LUSK*

1868 - 1934

William Chittenden Lusk was born in Guilford, Connecticut, July 23, 1868, and died of Parkinsons's disease in New York City on October 24th, 1934. He was the son of

* Read before the Society of Alumni of Bellevue Hospital December 5, 1934.

William Thompson Lusk, eminent obstetrician, and brother of Graham Lusk, eminent scientist.

Doctor Lusk was Consulting Surgeon to Bellevue Hospital, St. Vincent's Hospital and the Manhattan State Hospital, a member of the Society of Alumni of Bellevue Hospital, a Life Member and Founder of the American College of Surgeons, Fellow of the New York Academy of Medicine, member of the American Medical Association, of the Medical Societies of the State and County of New York, and of the New York Surgical Society.

Doctor Lusk's early years were spent at the home of his grandfather, Simeon Baldwin Chittenden, in Guilford, Connecticut, where he attended the Guilford High School. He then went to the Polytechnic Institute of Brooklyn. When he had finished there, he traveled for a year in Europe. In 1886, he entered Yale, where he had a notable career, and was graduated in 1890 with the degree of A.B. That fall he entered Bellevue Hospital Medical College and graduated in 1893 at the head of his class. He served as intern on the Third Surgical Division of Bellevue Hospital from 1893-1895. After completing his service in Bellevue Hospital, he immediately engaged in private practice, hospital work, and teaching in his Alma Mater. His first appointment in the College was as Assistant Demonstrator of Anatomy: later he became Assistant to the Chair of Surgery. In 1898 when Bellevue Hospital Medical College and the University Medical College were consolidated he was appointed Lecturer on Anatomy and Demonstrator of Operative Surgery, and in 1903 Professor of Clinical Surgery. After his disease began Doctor Lusk found teaching burdensome and resigned his college connections. In 1916, the College honored him by reappointment as Professor of Clinical Surgery and, again in 1933, as Professor Emeritus of Clinical Surgery. In 1932 the Alumni Federation presented Doctor Lusk with the medallion of the New York University Meritorious Service Award.

Doctor Lusk's hospital affiliations at various periods in his career were: Visiting Surgeon to the Almshouse and Workhouse hospitals, Assistant Visiting Surgeon to the Third Surgical Division of Bellevue Hospital, Assistant Visiting Surgeon to St. Vincent's Hospital; in 1912 he was transferred to the Fourth Surgical Division of Bellevue Hospital as Assistant Visiting Surgeon; in 1922 he was promoted to Visiting Surgeon and on his resignation from that Division in 1927 he was appointed Consulting Surgeon.

A former student and intern recalls his association with Doctor Lusk in this wise: Though he asked a good deal of us, he never spared himself. Often he would spend an entire evening at the College preparing for his lecture next day. In the hospital he devoted his entire time to the service and his students. He was there night and day. No one who served under him will ever forget his unfailing courtesy, his kindness, and his appreciation of good work.

Doctor Lusk was endowed with that rare combination of scientific imagination and infinite capacity for detail. Had the Fates not decreed otherwise, he would have become a leading investigator of surgical problems. In spite of his affliction, his bibliography comprises some 25 titles. His first important paper entitled "Remarks on a Frozen Section of The First Stage of Labor" appeared in the British Medical Journal in 1898. Then followed, among others: Excision of the Rectum for Cancer; J. Surg. Gyn. & Obstet., 1908, vii, pp. 113-226; The Anatomy of Spinal Puncture; Ann. Surg., 1911, LIV, 449. A Thoracic Aneurism Treated with Gold Wire and Galvanism; Ann. Surg., 1912, LV, 789.

When the War came Doctor Lusk's disease had progressed so far that active service was out of the question, but, determined to "do his bit," he devoted himself to an intensive study of the value of chinosol as a disinfectant and healing agent. This problem held his interest throughout the remainder of his life.

Early in life, Doctor Lusk developed many interests outside of his profession. He had an innate love of horses and the great outdoors, especially mountains. As long as his health permitted, he found recreation on the bridlepaths of the Park. His camera and fishing rod were his constant companions on his vacations.

Doctor Lusk was intensely social and delighted to entertain his friends. Former members of his house staff will recall the Christmas dinners he sent down to them in the hospital. Other friends cherish the memory of delightful evenings spent in his home. But his kindness and courtesy and generosity were not reserved for his intimates, they reached all with whom he was brought in contact. During the funeral services held in his late home an old man waited in the street, with bowed head, until the body of his friend had started on its last journey.

Tragic as was the illness that cut him off from professional work at the time of his greatest usefulness and promise, and hard as it is to understand, or become reconciled to, such a dispensation, yet that very illness brought fulfilment of life and character. He dedicated his life to his fellow-men and to all that was finest and best in his profession, adding full measure to the splendid traditions of his family.

WARREN COLEMAN.
ARTHUR M. WRIGHT.

DEATHS OF FELLOWS OF THE ACADEMY

VALENTINE, JULIUS JOHN, M.D., 745 Fifth Avenue, New York City; graduated in medicine from the College of Physicians and Surgeons in 1905; elected a Fellow of the Academy October 17, 1912; died, March 11, 1935. Dr. Valentine was a member of the County and State Medical Societies, the American Urological Association, and a Fellow of the American Medical Association, the American College of Surgeons and a past president of the Pan-American Medical Association and of the New York section of the American Urological Association. At the time of his death Dr. Valentine held positions as Professor of Urology at the New York Polyclinic Medical School and Director of Urology at Morrisania Hospital.

WALTER, JOSEPHINE, M.D., 50 Central Park West, New York City; graduated in medicine from the Woman's Medical College of New York Infirmary in 1882; elected a Fellow of the Academy April 2, 1891; died, February 26, 1935. Dr. Walter was a member of the County and State Medical Societies and of the Society of Associated Alumni of Mt. Sinai Hospital. She was Consulting Physician to the New York Infirmary for Women and Children and Consulting Gynecologist to Montefiore Hospital.